Demographic and Health Survey

Supervisor’s Manual

ICF
Rockville, Maryland

October 2024

The DHS Program is a five-year project to assist institutions in collecting and analyzing data needed to plan, monitor, and evaluate population, health, and nutrition programs. The DHS Program is funded by the U.S. Agency for International Development (USAID). The project is implemented by ICF in Rockville, Maryland USA, in partnership with the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs, PATH (formerly, the Program for Appropriate Technology in Health), Avenir Health, Blue Raster, and EnCompass.

The main objectives of The DHS Program are to: 1) provide improved information through appropriate data collection, analysis, and evaluation; 2) improve coordination and partnerships in data collection at the international and country levels; 3) increase host-country institutionalization of data collection capacity; 4) improve data collection and analysis tools and methodologies; and 5) improve the dissemination and utilization of data.

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Recommended citation:
ICF. 2024. Demographic and Health Survey Supervisor’s Manual. Rockville, Maryland, U.S.A.: ICF

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Instructions on adapting the Supervisor's Manual

In this manual, brackets are used to identify words, sentences, or entire topics that may require changes in wording (e.g., terminology) or removal (items that are not relevant to the specific survey). That said, when adapting this module, it is not sufficient to simply search for brackets as it is not possible to imagine all the places in the manual that may benefit from adaptation. Moreover, some of the information will need to be supplied by the implementing agency. Other things to keep in mind:

- *The manual is drafted under the assumption that there is a team supervisor only and not both a team supervisor and a CAPI supervisor. If there is a CAPI supervisor, this manual should be adapted to delineate the responsibilities of each type of supervisor.*
- *The manual assumes that listing information (for all households in a cluster not only those selected for interview) and maps denoting the location of selected households will be made available to teams. If this is not the case and/or a different methodology is used, adapt this manual accordingly.*
- *The manual assumes that the supervisor will conduct household re-interviews. If there is no plan for the supervisor or CAPI supervisor to do re-interviews, drop references to it from the manual. If there is a plan to conduct re-interviews, make sure the manual describes the planned procedures correctly.*
- *Are there biomarkers in the survey? If not, drop references to biomarkers and biomarker technicians from the manual. If so, adapt as needed according to biomarkers collected. For example, if there is no lab-based testing, the section on the transmittal sheet should be removed.*
- ***Lastly, delete this page from the manual prior to finalizing it.*** *These instructions are meant for the person(s) who does the adaptation, not the supervisors.*

I. OVERVIEW

A. Introduction

You have been selected to be a team supervisor for the [YEAR COUNTRY] Demographic and Health Survey. Supervisors are the main link between data collection in the field and the central office. As such, supervisors are responsible for ensuring the quality and success of the fieldwork.

Each supervisor will oversee a team consisting of [X] interviewers, [X] biomarker technicians, and a driver. To be an effective supervisor, you must understand the content of the survey questionnaires and the tasks and responsibilities of the interviewers and biomarker technicians, as well as the challenges they face. Supervisors therefore must have successfully completed the **main training of interviewers** and have read and understood the **Interviewer's Manual,** the **Interviewer's CAPI Manual**, and the **Supervisor's CAPI Manual**. They should also be familiar with the **biomarkers in the survey**, the **procedures for their collection,** the **Anthropometry Re-measurement Questionnaire**, the **severe acute malnutrition (SAM) referral**, any **other biomarker-related referrals** (e.g., severe malaria, hypertension), and the **biomarker procedural checklist**.

B. Responsibilities of the Supervisor

The supervisor is responsible for the logistics, well-being, and safety of team members, as well as ensuring teams adhere to work policies laid out by the [IMPLEMENTING AGENCY]. Specific responsibilities of the supervisor include: 1) making the necessary preparations for fieldwork, 2) organizing and directing the fieldwork, 3) observing interviews and providing feedback to interviewers, 4) observing biomarker collection and providing feedback to biomarker technicians, 5) selecting children for anthropometry re-measurement, [6) confirming all specimens for laboratory testing are accounted for using the transmittal sheet,] [and 7) conducting re-interviews.] The supervisor must inform the [fieldwork coordinator] of all concerns that require escalation.

BEFORE ENTERING FIELD:

Careful preparation is important to facilitate the work of the team in the field, maintain morale, and ensure that there is regular contact with the central office throughout the fieldwork. To prepare for field work, the supervisor should:

- Have a list and maps of all clusters where your team will be working.
- Ensure that the team has [identification badges, t-shirts, rain gear, backpacks] and any other materials supplied by the implementing agency.
- Ensure the team has the equipment and supplies to conduct all the interviews and biomarker tests that are assigned.
- Obtain monetary advances, fuel vouchers, etc.
- Know the area where the team will be working and determine the best way to arrange transportation and accommodation;
- Contact local authorities to report on the survey and request their cooperation;

DURING FIELD WORK:

During fieldwork, the supervisor must monitor their team's performance to improve and maintain the quality of the data collected. This is achieved by:

- Observing at least one interview each day
- Providing daily feedback to interviewers
- Conducting at least [one re-interview] per cluster
- Observing biomarker technicians taking measurements or conducting tests and providing feedback to biomarker technicians by using the procedural checklist.

In addition to these responsibilities, the supervisor must:

- Ensure that the work is carried out according to schedule following all procedures
- Report any problems to the [fieldwork coordinator] or other designated person(s)
- Make sure that the field vehicles are only used for data collection related activities
- Ensure that the team is housed in a safe place; local leaders may be able to help identify appropriate accommodations
- Conduct various CAPI supervisor tasks such as:
    - Assigning households to interviewers
    - Receiving data from interviewers
    - Transferring data to the central office daily
    - Receiving and sharing CAPI program updates from the central office
    - Reviewing the questionnaire data collected and ensuring that it is complete
    - Following the procedures to close each cluster visited as described in the Supervisor's CAPI Manual including resolving any data issues identified in CAPI reports
    - All other supervisor related tasks laid out in the Supervisor's CAPI Manual
- Communicate concerns identified by the [fieldwork coordinator] or other implementing agency staff to team members
- Selecting children for re-measurement
- Assisting with the delivery of severe acute malnutrition referrals
- Reviewing and signing transmittal sheets for laboratory bound specimens.

C. Social Media and Geotagging

Survey personnel must be very careful in how they use social media while conducting fieldwork. It is against DHS regulations to use social media in any fashion that infringes on the confidentiality of respondents including taking photos or videos of respondents and sharing them with anyone either directly or via a social media platform. Please refer to the Interviewer's Manual for detailed regulations. The team supervisor must enforce the regulations.

II. PREPARING FOR AND INITIATING FIELDWORK

A. Collecting Materials for Fieldwork

Before leaving for the field, the supervisor is responsible for collecting adequate supplies of the materials the team will need in the field and/or checking that interviewers and biomarker technicians have the materials they were provided during the training. These items are listed below:

Fieldwork Documents

General

- Supervisor's Manual
- Interviewer's Manual
- Interviewer's CAPI Manual
- Supervisor's CAPI Manual
- Printouts of the household listing information for all clusters the team has been assigned
- Maps
- Identification documents/badges
- Letters of introduction to local authorities
- Information for contacting the central office
- Contact cards (given to households)
- [Mental Health Module referral slips]
- [Resource list for victims of domestic violence]

Biomarker-related

- Biomarker Field Manual
- Paper Biomarker Questionnaires in relevant languages
- Re-measurement Questionnaires
- Biomarker Informational Pamphlet
- Relevant referral slips for biomarkers (e.g., severe acute malnutrition, hypertension, severe malaria)
- Procedural checklists and response aids
- [Transmittal Sheets]

Supplies

General

- Pens (blue ink) for interviewers and biomarker technicians
- Backpacks
- Envelopes to store completed paperwork (maps, and Biomarker Questionnaires, Biomarker Remeasurement Questionnaires, [written consent forms])
- Tablets and accessories
- [Survey t-shirts/uniforms/badges for field staff and drivers]
- [Rain gear, umbrellas, boots, torches]
- First aid kit
- [Salt testing kits and pins to pierce ampoules]

Biomarker-related

- [ADD BIOMARKER EQUIPMENT AND SUPPLIES.]

Funds for Field Expenses

- Mobile phone allowance for survey-related communications
- Money or vouchers for vehicle fuel
- [Advances for team's daily allowances]
- [ADD OTHER EXPENSES THAT ARE CUSTOMARILY PAID BY TEAMS]

B. Arranging Transportation and Accommodations

Supervisors are responsible for making all necessary travel arrangements for their team, whenever possible, in consultation with the central office. Vehicles owned or rented by the [IMPLEMENTING AGENCY] will generally transport the team to assigned work areas. The vehicle should be used exclusively for survey-related travel. When not in use, the vehicle should be kept in a safe place. Equipment and valuables (e.g. tablets, mobile phones, biomarker equipment, etc.) should be removed from the vehicle each evening, or, if that is not possible, placed out of sight. The driver of the vehicle takes instructions from the supervisor. If there are disagreements between the driver and the supervisor, reach out to your [field coordinator] to help resolve the disagreement. To reach some clusters, the supervisor may need to arrange for other means of transportation (e.g., boat, donkey).

The supervisor also oversees arrangement of food and lodging for the team. Since travel to rural clusters is often long and difficult, the supervisor may have to arrange for the team to stay in a central place. In other situations, interviewers may make their own arrangements, as long as these do not interfere with fieldwork activities or break the team spirit. Lodging should be reasonably comfortable, located as close as possible to the interview area, and provide secure space to store survey materials. Communicate your team's whereabouts to the central office each time you move from area to another.

C. Contacting Local Authorities

Before starting data collection in an area, the supervisor must contact local authorities including the [LIST RELEVANT LOCAL AUTHORITIES]. Letters of introduction will be provided, but tact and sensitivity in explaining the purpose of the survey will help win the cooperation needed to carry out the interviews. Key gate keepers (church leaders, traditional leaders, neighborhood watch groups, health officials, and local police) should also be notified about the field teams' presence in the area before starting field work. The gatekeepers may differ in rural and urban areas; for example [ADD RELEVANT INFORMATION FROM THE IMPLEMENTING AGENCY.]

D. Contacting the Central Office

Supervisors must be in regular contact with the central office to provide progress reports, report equipment breakage or theft, request biomarker or other supplies, and communicate any issues encountered during data collection. The central office will provide updates related to team assignments, planned visits to the teams by monitors, and observations on data quality (e.g., observations based on secondary editing and/or field check tables).

[DESCRIBE THE COMMUNICATION CHAIN FOR THE SURVEY INCLUDING WHO TO CONTACT FOR DIFFERENT ISSUES, E.G., CAPI, BIOMARKER EQUIPMENT AND

SUPPLIES, ACCESS TO CLUSTERS, HEALTH AND SAFETY, ETC.]

E. Crisis Management

Even when fieldwork is optimally managed, the possibility exists that teams will encounter a crisis. While it is not possible to plan for every conceivable emergency, the [implementing agency] should discuss steps supervisors should take should they encounter the following types of problems [FOR EACH BULLET, ADD RELEVENT INSTRUCTIONS FROM THE IMPLEMENTING AGENCY. ADD ADDITIONAL BULLETS AS REQUIRED. DELETE IRRELEVANT BULLETS]:

- The team vehicle is involved in an accident
- The team is affected by a natural disaster such as a flood, wildfire, or earthquake
- The team encounters instability or violence
- The team vehicle is broken into or team members experience theft
- A team member experiences a serious illness or injury and requires medical attention

F. Using Maps to Locate Clusters and Selected Households

[Note: the implementing agency should review this section to ensure it is consistent with information given to teams. In surveys in which GPS coordinates were collected during the listing at the household level, these data may be programmed into the CAPI system and used to aid in cluster and household identification. Surveys might also provide applications to help navigate to selected clusters and households. In such cases, adapt this section of the manual accordingly. In addition, detailed sketch maps or printed household listings may not be provided. Adapt this section of the manual accordingly.]

A major responsibility of the supervisor is to locate the correct cluster and to assist interviewers in locating selected households. The team will be provided with a [location map, a sketch map, and a copy of the household listing] for each of the clusters in which they will be working. These documents enable the team to identify the location of the cluster within the [administrative area] they are working in, the cluster boundaries, and the households selected for the sample. The quality of the survey depends on finding and visiting each selected household in each selected cluster.

An enumeration area (EA) is the smallest working unit in any census or survey operation that can be covered by one enumerator. It has identifiable boundaries and lies wholly within an administrative or statistical area. The general EA maps may show more than one EA (see Figure 1). Each EA is identified by a number (e.g., EA-05, enumeration area 05). Symbols are used to indicate certain features on the map such as roads, footpaths, rivers, and railroads (see Figure 1). Sketch maps show more details of the selected EA (see Figure 2).

At The DHS Program, the term cluster is often used interchangeably with EA. On occasion, however, there can be a subtle difference between the two. During the survey listing phase, very populous EAs may be subdivided into several smaller segments. In such instances, one segment is randomly selected to be in the sample, and a sketch map is prepared for that segment. Thus, the cluster selected is a segment of an EA. Henceforth, this manual will use the term cluster.

In most clusters, the boundaries follow easily recognizable land features (such as rivers, roads, railroads, swamps, etc.). However, at times, boundaries are invisible lines. The location and determination of invisible boundaries will require some ingenuity. The following guidelines are suggested to locate the selected clusters:

1) Identify on the map the road used to reach the cluster. When you reach what appears to be the boundary, verify this by checking the location of terrain features and landmarks against their location on the map. Do not depend on one single feature; use as many as possible.

2) It is usually possible to locate unnamed roads or imaginary lines by asking local authorities or people living in the area. In most cases, these people will know where the villages or other landmarks are, and by locating these, you can usually determine where the boundary runs.

3) Although there are cases in which boundaries shown on the map no longer exist or have changed location (e.g., a road has been relocated or a river has changed course), do not jump to conclusions. If you cannot locate a cluster, go on to the next one and report the matter to the central office.

4) In urban areas, street names will often help you locate the general area. Boundaries can be streets, alleys, streams, city limits, power cables, walls, rows of trees, etc.

5) Check the general shape of the cluster. This will help you determine whether you are in the right place.

6) Read the written description.

7) Locate all the cluster boundaries before you begin interviewing. For example, if the cluster is a rectangular block, the names of three boundary streets are not enough to unequivocally identify the cluster; check all four boundary streets (see Figure 3).

8) In most cases, the selected households can be located by referring to the household listing form or to the detailed maps of the selected clusters. Because people move, you may have difficulty locating dwellings that were selected if you rely on searching for the household head. Review the Interviewer's Manual for a discussion of how to handle situations where the dwelling is located but the household has moved, or the name of the household head differs from what was listed. Keep in mind also that sometimes the listing team may have made an error, and the map differs from what you observe on the ground.

Figure 1 Example of a General Enumeration Area (EA) Map

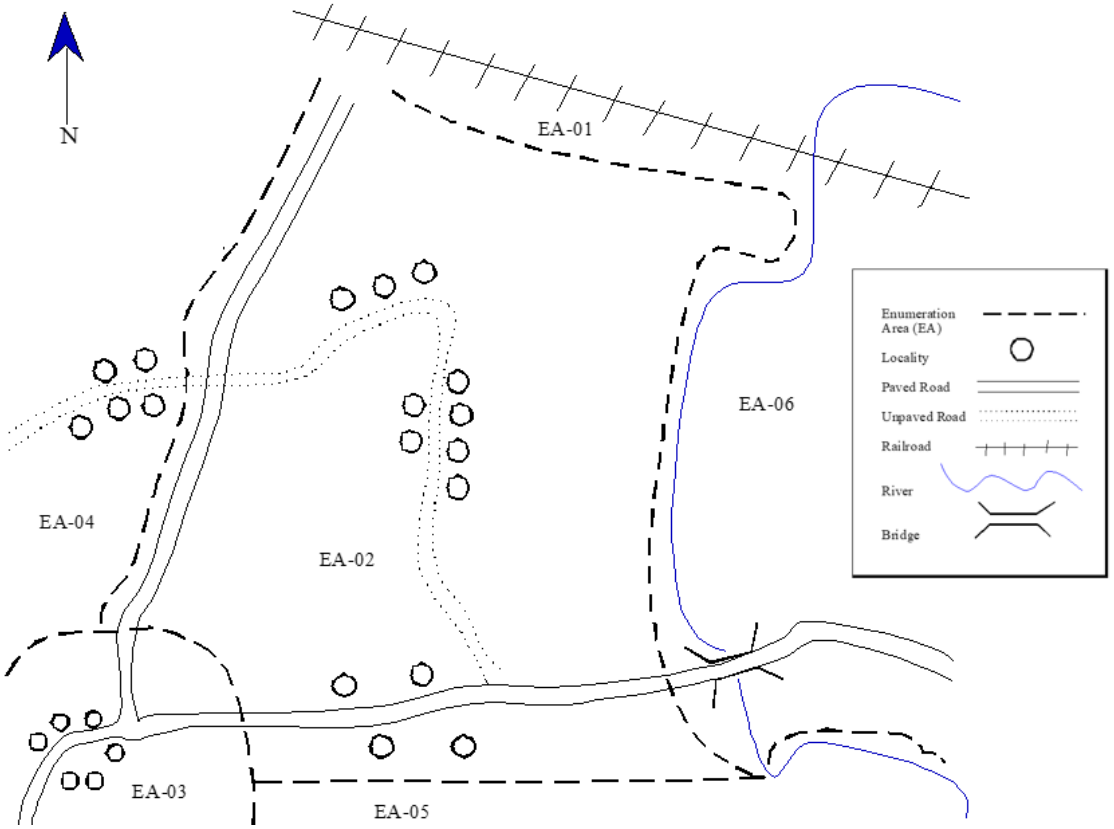


Figure 2 Example of a Sketch Map

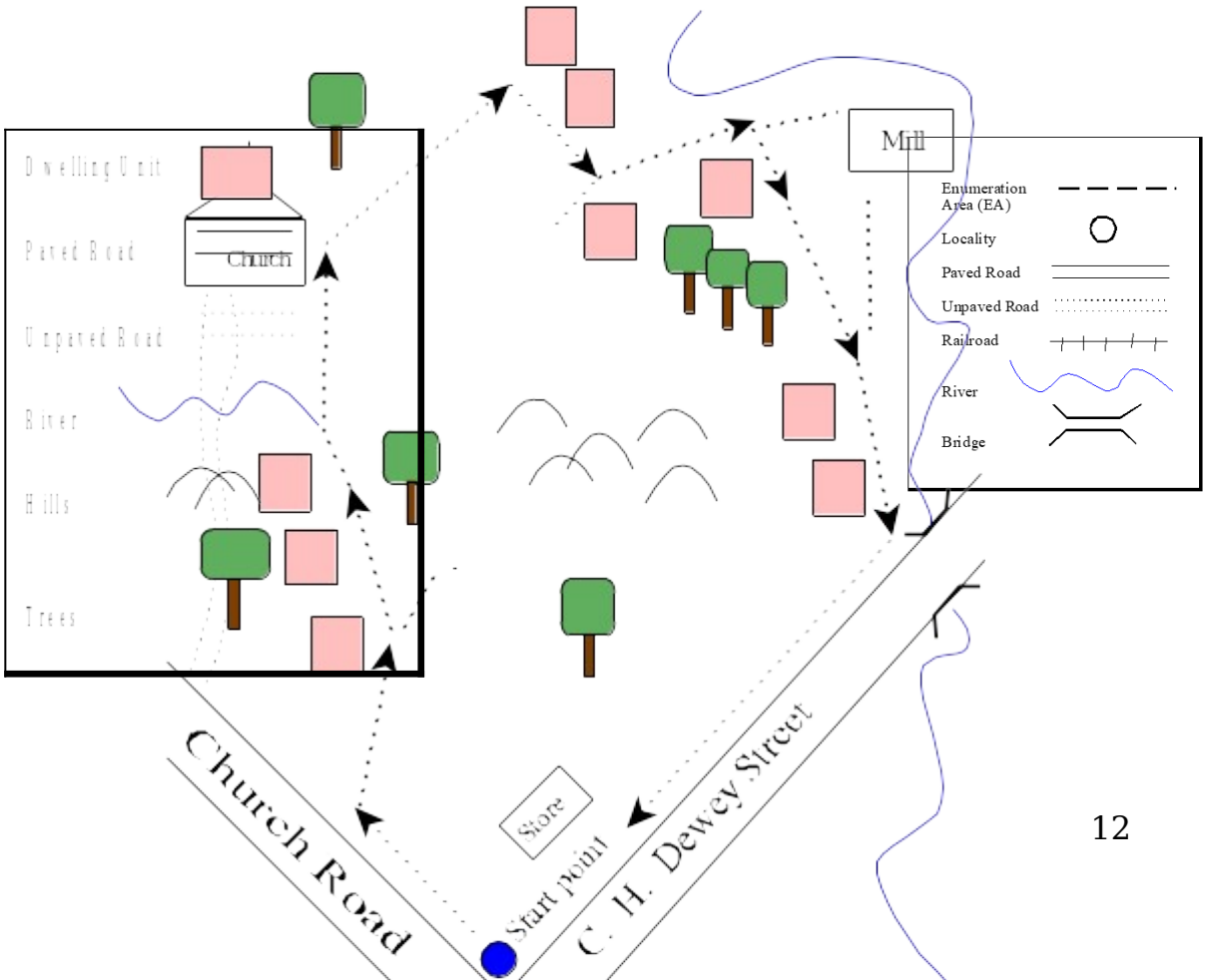
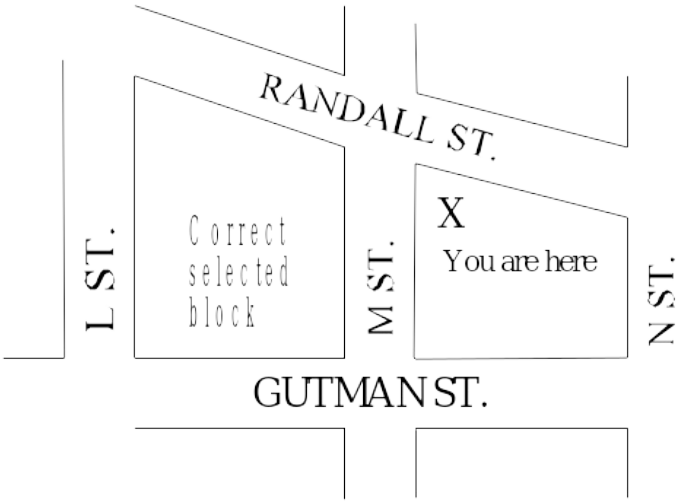


Figure 3. Importance of Identifying All Cluster Boundaries



III. ORGANIZING AND SUPERVISING FIELDWORK

A. Assigning Work to Interviewers

The following tips may be helpful to the supervisor in assigning work:

- Be sure each interviewer has enough work to do each day, taking into account the duration of an interview and the working conditions in the area. The central office will advise you about how many interviews each interviewer should be able to complete in a day.

- Assign more households to interview than an interviewer can actually do in one day. This will be necessary because some households and/or individuals may not be available for interview at the time of the interviewer's first visit. Sometimes there may be several of these cases a day for a particular interviewer.

- Assign fewer households to each interviewer at the beginning of the survey to allow time for discussion of problems and for close supervision. The first few clusters may take longer to close while teams get used to the workflow.

- Be fair when distributing work assignments.

- Ensure that each interviewer has all the required information and materials for completing the work assignment.

- All assignments and work completed by each interviewer and for each cluster should be monitored for completeness and accuracy.

- Ensure that all selected households and eligible respondents for that cluster have been interviewed before leaving the area. See Section C below for details on how to handle pending interviews.

- Reassign a household or individual interview to a different interviewer if it turns out that the interviewer knows the respondent. Interviewers are not allowed to interview anyone they know because it will bring bias into the survey results and reduce data quality.

- Supervisors must work with interviewers and biomarker techs to plan daily schedules for interviews and biomarker collection. Daily schedules can be adjusted to accommodate appointments with respondents, and interviews and biomarker measurements may occur outside of usual work hours. For example, in urban areas it may be necessary to conduct interviews or collect biomarkers in the evening hours when respondents return home from work.

- Finally, the supervisor must make sure that the interviewers fully understand the instructions given to them and that they adhere to the work schedule. Typically, the Central Office prepares the work schedule in advance, and adherence to it is crucial to avoid overruns in the total amount of time and money allocated for the fieldwork. [In the [XDHS], the

expectation is that teams will spend up to XX days per cluster.] Supervisors should also monitor the work of each interviewer to assess whether he or she is performing according to the standards set by the central office.

B. Reducing Nonresponse

One of the most serious problems in a DHS survey is nonresponse, that is, failure to obtain information for selected households or failure to interview eligible women and men. A serious bias could result if the level of nonresponse is high. This would damage the reliability and validity of all of the data collected, and the inferences we can make from the [XDHS] if the nonresponse rates are too high.

One of the most important duties of the supervisor is to try to minimize this problem and to obtain the most complete information possible from all selected households and all eligible individuals. In many cases, interviewers will need to make return visits to households in the evening or on the weekends to reduce nonresponse. It is a time-consuming task and requires strict monitoring due to its importance.

Nonresponse may be classified into three basic types:

Type 1 – the selected *household* cannot be located
Type 2 – a *respondent* eligible for the individual interview cannot be located
Type 3 – a respondent *refuses* to be interviewed.

Various ways of dealing with these types of nonresponse are discussed below.

Type 1: The interviewer is unable to locate the selected household

a) **Occupied structure inaccessible.** There may be some occupied structures for which no interviews can be made because of impassable roads, etc. The interviewer should make another attempt to reach the dwelling at a later date when the situation may have changed. The supervisor should immediately inform the [survey coordinator] of any difficulty in gaining access to a whole cluster or a sizable number of structures within the same cluster.

b) **Structure not found.** The supervisor should make sure the interviewer has tried several times to locate the structure using the available tools (e.g., household listing form, maps). If the interviewer is still unsuccessful, the supervisor should attempt to locate the structure and ask neighbors whether they know anything about the structure or the household members. If the structure cannot be found, the result code for the Household Questionnaire should be code ‘8’ (DWELLING NOT FOUND). Again, if this problem occurs frequently, it should be reported to the [survey coordinator].

c) **Structure nonresidential, vacant, or demolished.** If the interviewer indicates that a structure is not a dwelling unit or that it is vacant or demolished, the supervisor should verify that this is the case. If the interviewer is correct, there is no need for further callbacks (return visits). The final result code for the Household Questionnaire should be code ‘6’ (DWELLING VACANT OR ADDRESS NOT A DWELLING).

Type 2: The interviewer is unable to locate a respondent for the household interview or an individual interview

a) **No one home at time of call for a household interview.** The interviewer should make every effort to contact neighbors to find out when the members of the household will be at home or where they might be contacted. At least three visits should be made to locate the household members. Sometimes it may be necessary to call at mealtimes, in the early morning, in the evening, or on the weekend. However, the interviewer should not make "hit or miss" calls just to fill the quota of three visits. UNDER NO CIRCUMSTANCES IS IT ACCEPTABLE TO MAKE ALL THREE VISITS ON THE SAME DAY.

b) **Respondent eligible for an individual interview temporarily absent.** The respondent may not be at home or may be unable to complete the interview at the time of the first call. The interviewer should find out from other household members or neighbors when the respondent can best be contacted, and a return visit should be made then. If the respondent is still not at home at the time of the second visit, another time should be set for a return visit. At least three attempts should be made to locate the respondent. If the interviewer is not able to complete the entire interview during the initial visit, the procedure for callbacks should be followed.

Type 3: The respondent refuses to be interviewed

The number of refusals reported by each interviewer should be closely monitored. If an interviewer reports an unusually high number of refusals, it may indicate that he or she gives up too easily or explains the survey inadequately. If this appears to be the case, the supervisor should observe the interviewer promptly. Suggestions for handling potential refusals include the following:

- **Approach respondent from their point of view.** Refusals may stem from misconceptions about the survey or other prejudices. The interviewer must consider the respondent's point of view, adapt to it, and reassure them. If there is a linguistic or ethnic barrier between the respondent and the interviewer, the supervisor should, if possible, send a different interviewer to complete the interview.

- **Postpone interview to another day.** If an interviewer senses that they have arrived at an inconvenient or awkward time, they should try to leave before the respondent gives a final "no"; they can then return another day when circumstances are more likely to result in a successful interview.

- **Have supervisor carry out the interview.** The supervisor's knowledge, skill, and maturity may enable him or her to complete a difficult interview when the assigned interviewer has been unable to do so.

C. Handling Pending Interviews

When information has not been collected from a selected household or from an eligible respondent and the return visits have not been completed, the interview is considered "pending."

Completing callbacks for pending interviews is time-consuming and should be carefully planned. If a few interviews remain pending as interviewing in a cluster nears completion, one or two interviewers and/or biomarker techs can be assigned to remain in the area and complete the interviews while the rest of the team proceeds to the next cluster if the next cluster is not too far away. In this way, the whole team is not kept waiting for one or two interviewers to finish. Clear instructions should be left with the interviewers as to where and when to rejoin the team and what method of transportation should be used. If the next cluster is not nearby, the team supervisor should contact the central office for guidance about whether to stay longer in the cluster to complete pending interviews or consider the pending interviews incomplete/non-response.

D. Maintaining Motivation and Morale

The supervisor plays a vital role in creating and maintaining motivation and morale among the interviewers and biomarker technicians - two elements that are essential to good-quality work. To achieve this, it is necessary to make sure that interviewers and biomarker techs:

- Understand clearly what is expected of them
- Are properly guided and supervised in their work
- Receive recognition for good work
- Are motivated to improve their work
- Work in tranquil and secure conditions.

In working with the interviewers and biomarker techs, it may be useful to adhere to the following principles:

- Rather than giving direct orders, try to gain voluntary compliance before demanding it.

- Without losing a sense of authority, try to involve the interviewers or biomarker techs in decision making, and at the same time, see to it that the decision remains firm.

- When pointing out an error, do it with tact, in a friendly manner, and in private. Listen to their explanation, show him/her that you are trying to help, and examine the causes of the problem together.

- When interviewers or biomarker techs voice complaints, listen with patience and try to resolve them.

- Try to foster team spirit and group work.

- Under no circumstances show preference for one or another of the interviewers or biomarker technicians.

- Try to develop a friendly and informal atmosphere.

- Whenever feasible and if your workload allows, help with conducting interviews.

Finally, remember that encouraging words, instructions, and constructive criticism are not worth anything unless the supervisor sets good examples. It is

important to *demonstrate* punctuality, enthusiasm, and dedication in order to demand the same of other team members.

Never give the impression that you are working less than other members of the team, or that you are enjoying special privileges; this may produce a lack of faith in the project and cause general discontent. An ill-prepared supervisor will not be able to demand high-quality work from interviewers or biomarker techs and will lose credibility and authority. Team morale and motivation depend on your morale and motivation.

IV. MONITORING INTERVIEWER PERFORMANCE

Controlling the quality of the data collection is the most important function of the supervisor. Throughout the fieldwork, he/she will be responsible for observing interviews, reviewing data collected for completeness, [and conducting occasional re-interviews]. By checking the interviewers' work regularly, the supervisor can ensure that the quality of the data collection remains high throughout the survey.

It may be necessary to observe the interviewers more frequently at the beginning of the survey and again toward the end. In the beginning, the interviewers may make errors due to lack of experience or lack of familiarity with the questionnaire; these can be corrected with additional training.

Toward the end of the survey, interviewers may become bored or lazy in anticipation of the end of fieldwork; lack of attention to detail may result in carelessness with the data. To maintain the quality of data, the supervisor should check the performance of interviewers thoroughly at these times.

A. Observing Interviews

The purpose of the observation is to evaluate and improve interviewer performance and to look for errors and misconceptions that cannot be detected by review of completed questionnaires. For example, an interviewer may have made assumptions about the respondent and answered certain questions for them without reading them aloud, they may have paraphrased a question rather than reading it as written and confused the respondent, or they may have mistakenly entered the wrong response code. Thus, even though a completed questionnaire may appear free of errors (e.g., no error or warning messages), the interviewer may not have exhibited proper interviewing technique.

Even if the supervisor does not know the language in which the interview is being conducted, he/she can detect a great deal from watching how the interviewers conduct themselves, how they treat the respondents, and how they fill out the questionnaire. The supervisor should observe each interviewer many times throughout the course of fieldwork.

Each interviewer should be observed during the first two days of fieldwork so that any errors made consistently are caught immediately. Additional observations of each interviewer's performance should be made during the rest of the fieldwork. The supervisor should observe *at least one interview per day* during the course of the fieldwork, with the most observations at the beginning and end. [When observing the interview, please complete the technical interviewer checklist for supervisors; if an electronic form (e.g., Google forms), submit it via the appropriate means.]

Usually, male supervisors do not sit in on interviewers with female respondents, and female interviewers do not observe interviews with male respondents. In such cases, the supervisor can observe a household interview.

During the interview, the supervisor should sit close enough to see what the interviewer is entering in their tablet. This way, he or she can see whether the

interviewer interprets the respondent correctly and follows the instructions for the question. The supervisor should try to conduct herself in such a manner as not to make the interviewer or respondent nervous or uneasy. Only in cases where serious mistakes are being made by the interviewer should the supervisor intervene. Rather, the supervisor should write notes of problem areas and points to be discussed later with the interviewer. Supervisors need not observe a complete interview; [in addition, because of its sensitive nature, supervisors should observe the Domestic Violence Module.]

After observing the interview, the supervisor and interviewer should discuss the interviewer's performance. The supervisor should mention things that the interviewer did correctly as well as any problems or mistakes.

B. Evaluating Interviewer Performance

The supervisor should meet daily with the interviewers to discuss the quality of their work. In most cases, mistakes can be corrected, and interviewing style improved by pointing out and discussing errors at regular meetings. At team meetings, the supervisor should discuss mistakes discovered during observation of interviews, being careful not to embarrass individual interviewers. Re-reading relevant sections from the Interviewer's Manual together with the team can help resolve problems.

The supervisor can also encourage the interviewers to talk about any situations they encountered in the field that were not covered in training. The group should discuss whether the situation was handled properly and how similar situations should be handled in the future. Team members can learn a lot from one another in these meetings and should feel free to discuss their own mistakes without fear of embarrassment.

If there are questions that are not addressed by the Interviewer's Manual or that require further discussion, the supervisor should communicate with the central office. The central office will make a determination and share with all field teams.

Sometimes, feedback may be provided to the team supervisor by the central office on team performance based on the survey's Field Check Tables. The supervisor should endeavor to understand the reasons why problems appearing in the Field Check Tables may be occurring, discuss the data completeness or quality issues with their team, and pass along or generate possible solutions to improve.

Supervisors should also discuss positive examples that they observed and draw attention to areas where the interviewers are performing well. This will increase morale and help give interviewers pride in their work.

The supervisor should expect to spend considerable time evaluating and instructing interviewers at the start of fieldwork. If they feel that the quality of work is not adequate, the interviewing should stop until errors and problems have been fully resolved. In some cases, an interviewer may fail to improve and will have to be replaced in consultation with the central office. This applies particularly in the case of interviewers who have been dishonest in the recording of ages of women and/or children because doing so can have large effects on data quality.

C. Re-Interviews

[Note: Delete this section if the XDHS does not include re-interviews. If re-interviews are part of the XDHS protocol, adapt this section to match the planned methodology. As of the time of this writing, there is no standard re-interview protocol.]

As mentioned, a critical function of the supervisor is to ensure that the information collected by the interviewers is accurate and of the highest quality possible. One powerful method of checking the quality of the data is to systematically spot-check the information for specific households. This is done by conducting a short re-interview in some households and checking the results with what was collected by the interviewer. As with the original interview, the re-interview is performed on CAPI.

Re-interviews help reduce three types of problems that affect the accuracy of the survey data:

1. **Wrong household was interviewed:** Re-interviews are used to check that the interviewer truly interviewed the selected household. Sometimes interviewers either inadvertently locate the wrong household or they may deliberately interview a household that is smaller or a household in which someone is home at the time they are in that area, thus making it easier to finish their work quickly. Occasionally, an interviewer may not interview any household and simply fills in a questionnaire on their own instead. Re-interviews can detect these problems.

2. **List of household members (residents and visitors) is incomplete or inaccurate:** Sometimes interviewers may omit eligible women or men from the household schedule, especially if they are visitors in the household. Another problem that arises is interviewers may inaccurately record an individual's age. This could be due to failure to probe when reported ages are rounded, or deliberately subtracting or adding years from an individual's age to place them outside the age range of eligibility for the individual interview. For example, a woman who is age 48 may have her age rounded to 50, placing her outside the 15–49-year age range. Similarly, a young woman who is 15 or 16, may be recorded as 14, making her appear to be too young for an individual interview. In these ways, they reduce their workload. If this happens frequently, it can have a substantial impact on the quality of the data.

In addition, an interviewer may change the age of the child on the Household Questionnaire or may omit listing a child altogether to reduce the workload for the biomarker technicians.

3. **Consent was not obtained:** It is also important to ensure that the interviewer has administered the informed consent properly, so the person conducting the re-interview should also ask the respondent if he/she was fully informed by the interviewer about the voluntary nature of participation, the confidentiality of the information provided, and other key aspects of informed consent. This is an extremely important requirement, as individuals have a right to refuse participation for any reason, and to not provide them with that opportunity would be a violation.

To reduce the occurrence of such problems, supervisors will be responsible for conducting [at least one re-interview in each cluster.] [The CAPI program randomly selects [X] candidate households per cluster for re-interview. The supervisor chooses one or more of these candidate households to reinterview.]

The re-interview should, if possible, be *made on the same day* as the interviewer's visit so that any visitors who stayed there the night before can still be contacted. Over time, supervisors should make sure that they re-interview households interviewed by each team member.

[ADD TEXT HERE DESCRIBING HOW THE REINTERVIEW PROCESS INCLUDING A BRIEF DESCRIPTION OF THE PORTIONS OF THE HOUSEHOLD QUESTIONNAIRE INCLUDED, TYPICALLY THE HOUSEHOLD ROSTER AND SEVERAL QUESTIONS ON HOUSEHOLD CHARACTERISTICS].

After completing the re-interview, the supervisor should view the list of differences generated by CAPI and review them with the interviewer. Some differences in information are to be expected, especially if a different household member is interviewed during the reinterview. However, if the supervisor discovers a woman or man (who is usual resident of the household or who stayed at the household the night before the original interview) eligible for individual interview who was not identified in the original interview, call this to the interviewer's attention and send him/her back to interview the eligible respondent.

Similarly, if a child who is under five was either omitted from the original questionnaire or listed as being age five or older in the original questionnaire, the interviewer should return to household to correct the information including that affected by skips. If the household was selected for biomarkers, the addition of the child or a change in the child's age will also affect his/her eligibility for biomarkers. Accordingly, the biomarker technicians may need to return to the household to collect.

If such omissions or displacements occur frequently with the same interviewer, the supervisor should send monitors from the central office to observe the interviewer and should check the interviewer's work very closely. Interviewers will be less tempted to displace or omit women or births if they know that this practice will be exposed during re-interviews.

V. BIOMARKERS AND BIOMARKER DATA QUALITY

[REMOVE THIS SECTION IF THE XDHS DOES NOT INCLUDE BIOMARKERS. ADAPT BASED ON BIOMARKERS COLLECTED. FOR EXAMPLE, IF THERE IS NO LAB-BASED TESTING, REMOVE THE SECTION ON TRANSMITTAL SHEETS.]

As with the other components of the survey, the supervisor has an important role to play in ensuring biomarker data quality.

A. Assigning Work to Biomarker Technicians

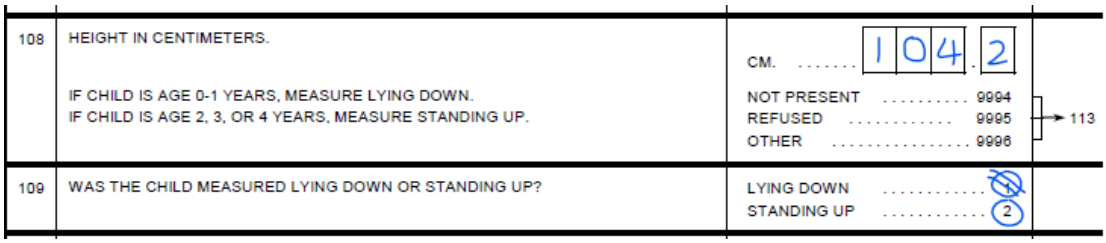
Much like with interviewers (See Section III.A above), the supervisor assigns work to biomarker technicians and must do so in as fair a way as possible. Typically, biomarker technicians work in pairs, and thus the assignments will be made to the pair rather than the individual.

Because the earliest biomarker collection can take place is after the household interview, biomarker techs may have little to do during the first few hours after arriving in a cluster. Because of this lag, very often interviewers will have completed their assignments and be waiting for biomarker collection to be finished before the cluster can be closed. This may lead interviewers to become frustrated and impatient. Remind everyone that they are working as a team, and while it is important to be efficient, rushing data collection will reduce quality.

Several ways interviewers can assist biomarker technicians are to 1) complete the cover page and relevant inside sections of the paper Biomarker Questionnaire (e.g., name, line number, date of birth, and age for children) fully using neat handwriting; 2) introduce the technicians to the household where biomarker collection is taking place, and 3) assist them in transporting the biomarker equipment and supplies to the household, and back to the vehicle at the end of the day.

B. Checking Biomarker Questionnaires and Observing Biomarker Collection

Be sure to observe biomarker collection from time to time, including looking at the questionnaires and other paperwork. In contrast to household and individual interviews, biomarker data are collected on paper questionnaires. Therefore, at a minimum, reviewing completed Biomarker Questionnaires for completeness and legibility is recommended. It is critical that biomarker technicians record measurements and test results in the paper questionnaire itself and not in a notebook or on a sheet of paper. Technicians sometimes first record data elsewhere because they want the Biomarker Questionnaire that they return to the interviewer for entry into the CAPI application to be “perfect” with no cross outs. If you observe this happening, remind them they should always record results directly in the Biomarker Questionnaire. To make corrections, they should do so as described in the Biomarker Field Manual. For example, by putting two diagonal lines through and incorrect response:



Failure to follow this protocol could lead to data quality errors.

When observing the testing or measurement of children, review the biomarker procedural checklist. This tool is designed to empower you by pointing out key steps that you should check to see if the biomarker technician is doing correctly. For example, before having their height measured, were a child's shoes removed? Based on your observations, provide feedback to the biomarker technicians. If you are unsure on what information to provide as feedback, refer to the procedural checklist response aid.

For anthropometry, ensure that children are measured by a team of two, a measurer and an assistant. The measurer will have undergone a "standardization" exercise that has proven their ability to measure a child with adequate accuracy and precision. The assistant helps position the child during measurement and records the height and weight of the child in the Biomarker Questionnaire.

For blood-based biomarker collection, ensure that all waste is collected and treated appropriately. Sharps (e.g., lancets) should be placed in sharps containers; other waste including used gauze, bandages, alcohol preps, rapid diagnostic tests, and gloves should be placed in a red biohazardous waste bag. No materials used in biomarker testing should be left in the household. All biohazardous waste should be removed from the cluster and disposed of following the arrangements provided by the [IMPLEMENTING AGENCY OR MINISTRY OF HEALTH]. Typically, this means transporting them to a health facility for incineration.

C. Transmittal sheets

Surveys that collect specimens for testing in a laboratory (e.g., blood smears, dried blood spots (DBS), and venous blood) require the use of a form referred to as a transmittal sheet. The transmittal sheet serves to link the information collected in the Biomarker Questionnaire about a respondent to a biological specimen. The linkage is achieved through the placement of matching barcodes on the Biomarker Questionnaire, on the specimen, and on the transmittal sheet. The transmittal sheet enables the team to keep track of the number of specimens collected in each cluster and ensure that they are all accounted for when the specimens are sent to the laboratory.

After the biomarker technician completes the transmittal sheet, the supervisor must verify that each specimen is indeed present. The supervisor scans or enters by hand each barcode on the transmittal sheet into their tablet. The CAPI system will compare the information entered by the supervisor with the information entered from the Biomarker Questionnaire and alert the supervisor to any

inconsistencies. Resolving the inconsistencies is one of the steps that must be undertaken to close the cluster.

The supervisor must also complete the detailed instructions on the transmittal sheet itself. This involves counting the specimens, verifying none are missing, entering the date, noting any discrepancies in the number of samples expected versus present, and signing the sheet.

D. Anthropometry Re-measurement, Severe Acute Malnutrition Referrals, and the Role of the Supervisor

One of the procedures The DHS Program has put in place to improve anthropometry data quality is to re-measure a small number of children in every cluster. Children are chosen for re-measurement either at random or because their measurements are so extreme that they are likely invalid. The latter can happen because of poor measurement technique, a recording error, or if the height and weight data for one child in a household is mistakenly recorded in the space for another with a substantially different date of birth.

The identification of children selected for re-measurement can only take place once all of the Biomarker Questionnaires have been completed, entered into the interviewers' tablets, and transferred to the team supervisor's tablet. The reason for the re-measurement, whether at random or because the initial value is extreme, is not revealed. At this stage, all paper Biomarker Questionnaires should be placed in an envelope that biomarker technicians cannot access (see also Section V.E below)

As described in the Supervisor CAPI Manual, the supervisor then runs the appropriate program on their tablet to select children for re-measurement. For each child, the supervisor fills out the cover page and top section of a blank Re-measurement Questionnaire (the child's name, line number, date of birth, and age). In most cases, there will only be one child selected per household.

Because re-measurement is a requirement of closing the cluster, there can be pressure on biomarker technicians to take a shortcut so the team may move on. It is very important that the entire team understands that remeasurement is a standard part of the survey meant to improve data quality and shortcuts for remeasurement should not be taken. For example, fabricating the data outright or copying the measurements from the original Biomarker Questionnaire into the Re-measurement Questionnaire. The latter may be especially tempting if the biomarker technicians can access their original measurements. Under no circumstances should you allow the technicians to view their original measurements and copy them.

Biomarker techs return to the household(s) to remeasure the selected children, ideally with the supervisor and as soon as those who've been selected are known. When they return to the household, they must give the reason for their presence, namely, to take re-measurements for a child as part of ensuring the quality of the survey. If the child is not present, the biomarker technicians should come back later. Ideally, the biomarker technicians should make up to three visits before giving up and declaring the child 'not present' in questionnaire. However, there may be circumstances where this is not possible. If the child cannot be remeasured either because they are not present after repeated visits,

record NOT PRESENT within the Re-measurement Questionnaire. If the child cannot be remeasured because there is insufficient time to make repeated visits, record OTHER within the Re-measurement Questionnaire.

The biomarker tech will hand the Re-measurement Questionnaire back to the supervisor and the supervisor will enter the data into their tablet. At this point, the cluster can be closed. Should any of the children who were re-measured have a weight-for-height score (called a Z-score) that indicates they are suffering from severe acute malnutrition (wasting), the supervisor's CAPI program will list them as such. The supervisor will then complete and sign a severe acute malnutrition referral form, and hand it to the biomarker technician. The biomarker technician must return to the household, hand over and explain the referral to the caregiver, and instruct the caregiver to seek immediate medical attention for the child.

The efficiency of the process of providing severe acute malnutrition referrals can be improved if the supervisor accompanies the biomarker technicians when they return to households for re-measurement because the information from the Re-measurement Questionnaire can be inputted into the supervisor's CAPI program while still at the household. Thus, the referral form can be completed and turned over to the caregiver while the biomarker tech is still at the household for the re-measurement rather than having to make a return visit.

VI. OTHER TOPICS

E. Sending Biomarker Questionnaires and Other Documents to the Central Office

As has been described elsewhere, participants in the [XDHS] have been promised that the data collected from their households and themselves are confidential and will not be shared with anyone outside of the survey. The data files that will eventually be made public will be stripped of personally identifiable information (PII) such as names and addresses. However, removing PII cannot happen until late in the data processing stage of the survey. Therefore, while still in the field, great care must be taken to teams to protect any forms that contain PII. If any completed Biomarker or Re-measurement Questionnaires are lost or stolen, report this to the Central Office as soon as possible.

As part of closing each cluster, all Biomarker Questionnaires, Re-measurement Questionnaires, printed listing information, and printed maps should be enclosed in a large envelope. On the outside of the envelope, write the cluster number, the name of the locality and the number of Biomarker Questionnaires and Re-measurement Questionnaires included. It is important to transfer these documents to the Central Office continuously throughout fieldwork so that secondary editors can use hard copies for their work.

If the documents are too large to fit in one envelope, use two or more and write "PACKAGE 1 OF 3, PACKAGE 2 OF 3," etc. on each envelope. Packages will need to be carefully stored until they can be transported to the Central Office.

F. Returning Equipment to the Central Office

At the end of fieldwork, all tablet computers, [biomarker equipment and supplies, backpacks, maps, and other paperwork] must be returned to the central office. [ADD SPECIFIC INSTRUCTIONS HERE.]